

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A method of re-routing a path installed in a transoceanic Multiplex Section Shared Protection Ring network in the event of a first failure on a first span of said path, said network comprising network elements connected in a ring configuration by fiber spans, said fiber spans comprising high priority channels and low priority channels, said method comprising:

performing a ring switch action by a Multiplex Section Shared Protection mechanism;

providing said ring with a Time Slot Interchange mechanism; and

re-routing the path over a time slot of the low-priority channels corresponding to a time slot of the high-priority channels of the first span having the first failure; and

wherein a second span of the path becomes affected by a second failure, further comprising:

releasing the re-routing performed because of the first failure on the first span;

selecting one of the first and second spans; and

re-routing the path over a time slot of the low priority channels corresponding to a time slot of the high priority channels of the first or second span that has been selected.

2. (canceled).

3. (previously presented): A method according to claim 1, wherein a second span becomes affected by a second failure, further comprising maintaining the re-routing, performed because of the first failure on the first span, when persistency of re-routing information is supported by the network elements of the ring network.

4. (previously presented): A method according to claim 1, wherein the selecting one of the first and second spans comprises:

identifying nodes terminating the path to be protected;

identifying switching nodes; and

considering two spans adjacent to switching nodes able to communicate with termination nodes of the path to be protected, wherein at least one further span of the installed path becomes affected by an additional failure.

5. (previously presented): A method according to claim 1, wherein the selecting of one of the first and second spans comprises:

providing each network node with a node identification ID;

identifying at least one switching node; and

selecting the first or second span adjacent to a switching node having a higher or a lower node identification ID.

6. (previously presented): A method according to claim 1, wherein the selecting of one of the first and second spans comprises:

providing a network ring map;

identifying at least one switching node; and

selecting the first or second span adjacent to a switching node that comes first or last in the network ring map.

7. (previously presented): A method according to claim 1, wherein the selecting of one of the first and second spans comprises:

identifying a west side and an east side in the ring network;

identifying at least one switching node; and

selecting the first or second span adjacent to a far west or a far east switching node in the ring network.

8. (currently amended): A network element of a transoceanic Multiplex Section Shared Protection Ring network, said ring network comprising network elements connected to each other in a ring configuration by fiber spans, said fiber spans comprising high priority channels and low priority channels, said network ~~element~~ elements comprising:

means for performing ring switch actions upon receipt of a corresponding signal, wherein said ring switch actions comprise a pass-through action, a bridge action or a switch action; and

means for issuing and sending proper signals upon receipt of corresponding signals,

wherein a path is installed in said ring network,

wherein a time slot interchange mechanism is provided in said ring network,

wherein said network element further comprises means for, in case of a first failure in a first span of the installed path, re-routing the path over a time slot of low priority channels corresponding to a time slot of high priority channels of the first span having the first failure, and

wherein a second span of the path becomes affected by a failure, wherein the network element further comprises:

means for releasing the re-routing action performed because of the first span having the first failure;

means for selecting one of the first and second spans; and

means for re-routing a path over the time slot of the low priority channels corresponding to the time slot of the high priority channels of the selected first or second span.

9. (canceled).

10. (previously presented): A network element according to claim 8, wherein a second span of the path is affected by a second failure, further comprising means for maintaining the re-routing action, performed because of the first span having the first failure, when persistency of the re-routing information is supported by the network elements of the ring network.

11. (previously presented): A network element according to claim 8, wherein the path to be protected comprises termination nodes, switching nodes identified because of a failure, and

wherein said means for selecting one of the first or second spans having a failure comprise means for considering two spans adjacent to the switching nodes able to communicate with the termination nodes of the path to be protected in the case where at least one further span of the path becomes affected by a failure.

12. (previously presented): A network element according to claim 8, said network element comprises:

a path termination node; and

means for performing a Bridge&Switch action upon receipt of two signals comprising corresponding bridge requests with a Bridge&Switch status code related to different spans.

13. (previously presented): A network element according to claim 8, said network element comprises:

a path non-termination node; and

means for performing a pass-through action upon receipt of at least one signal comprising a bridge request with a Bridge&Switch status code.

14. (previously presented): A network element according to claim 8, said network element comprises:

a path termination node; and

means for performing a Bridge&Switch action upon receipt of two signals comprising corresponding bridge requests with an Idle status code related to the first or second span.

15. (previously presented): Network element according to claim 8, said network element comprising:

a path non-termination node; and

means for performing a pass-through action upon receipt of at least one signal comprising a bridge request with an Idle status code.

16. (previously presented): A transoceanic Multiplex Section Shared Protection Ring network comprising:

one or more network elements connected to each other in a ring configuration by fiber spans, said fiber spans comprising high priority channels and low priority channels,

said network elements comprising:

means for performing ring switch actions upon receipt of corresponding signals, wherein said ring switch actions comprise a pass-through action, a bridge action or a switch action; and

means for issuing and sending proper signals upon receipt of corresponding signals,

wherein a path is installed in said ring network,

wherein a time slot interchange mechanism is provided in said ring network, and

wherein said network elements further comprise:

means for, in case of a failure in a span of the installed path, re-routing the path over a time slot of low priority channels corresponding to a time slot of high priority channels of the span having the failure;

wherein a second span of the path becomes affected by a failure, wherein the network element further comprises:

means for releasing the re-routing action performed because of the first span having the first failure;

means for selecting one of the first and second spans; and

means for re-routing a path over the time slot of the low priority channels corresponding to the time slot of the high priority channels of the selected first or second span.